

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently amended) A polarized display, comprising:
an intensity modulating matrix display, ~~said intensity modulating matrix display~~
having a front surface; and
a polarizing matrix display in front of ~~said~~ the intensity modulating matrix display, ~~said the polarizing matrix panel display~~ having a front surface;
wherein the polarized display is one of:
a linear polarization display, each pixel of ~~said the~~ the polarizing matrix display ~~panel~~ being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and
an elliptical polarization display, each pixel of ~~said the~~ the polarizing matrix display ~~panel~~ being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of ~~said the~~ the intensity modulating matrix display in a range including 180 degrees and below, and
wherein the intensity modulating matrix display includes a backlight panel, a first polarizer, a first matrix display panel and a second polarizer, the polarizing matrix display including a second matrix display panel.
2. (Cancelled)
3. (Currently amended) The polarized display according to claim ~~[[1]]~~ 17, wherein ~~said the~~ the polarizing matrix display ~~comprises~~ includes a front half-length retarder.
4. (Currently amended) The polarized display according to claim 3, wherein ~~said the~~ the polarizing matrix display ~~comprises~~ includes a quarter-length retarder sheet in front of ~~said the~~ the front half-length retarder, ~~said the~~ the display being an elliptical polarization display.

5. (Currently amended) The polarized display according to claim ~~[[1]]~~ 17, wherein the polarized display is looked at with passive 3D glasses, yielding a stereoscopic screen.

6. (Currently amended) ~~The display according to claim 1;~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein ~~said~~ the intensity modulating matrix display ~~comprises~~ includes a first LCD panel and ~~said~~ the polarizing matrix display ~~comprises~~ includes a second LCD panel, a first player wearing glasses with both eyes at a first polarized orientation and a second player wearing glasses at a second polarized orientation, yielding a two players-two displays-single screen-full screens display screen.

7. (Currently amended) The polarized display according to claim ~~[[1]]~~ 17, wherein ~~said~~ the intensity modulating matrix display ~~comprises~~ includes at least one of a first micro-lens arrays layer and gradient index lenses (GRIN), ~~said~~ the polarizing matrix display ~~comprising~~ including at least one of a first micro-lens arrays layer and gradient index lenses (GRIN).

8. (Currently amended) The polarized display according to claim ~~[[1]]~~ 17, wherein ~~said~~ the polarizing matrix display ~~comprises~~ includes one of a front diffuser and a front microballs diffuser.

9. (Currently amended) The polarized display according to claim 8, wherein ~~said~~ the polarizing matrix display ~~comprises~~ includes a microprism between the front surface thereof and ~~said~~ the front microballs diffuser.

10. (Currently amended) The polarized display according to claim ~~[[1]]~~ 17, wherein ~~said~~ the intensity modulating matrix display ~~comprises~~ includes a grating optical element in the front surface thereof.

11. (Currently amended) ~~The~~ A polarized display, comprising:
an intensity modulating matrix display having a front surface; and
a polarizing matrix display in front of the intensity modulating matrix display, the
polarizing matrix display having a front surface;
wherein the polarized display is one of:
a linear polarization display, each pixel of the polarizing matrix display being
controllable and a rotation of a generated polarized light being varied over a range
including 90 degrees and below; and
an elliptical polarization display, each pixel of the polarizing matrix display being
controllable and a phase between a fast and a slow axes of a polarized light coming from
a corresponding pixel of the intensity modulating matrix display in a range including 180
degrees and below; and
wherein the polarized display according to claim 1, further comprising includes an
image replicator layer provided between said the intensity modulating matrix display and
said the polarizing matrix display panel.

12. (Currently amended) The polarized display according to claim 11, wherein ~~said~~ the image replicator layer ~~comprises~~ includes at least one of a mini-Lens Arrays layer where arrays are selected to form a non-inverted 1:1 image projection, and Index (GRIN) lenses.

13. (Currently amended) The polarized display according to claim 11, wherein ~~said~~ the image replicator layer ~~comprises~~ includes at least one holographic optical elements device.

14. (Currently amended) The polarized display according to claim ~~[[1]]~~ 17, wherein ~~said~~ the intensity modulating matrix display and ~~said~~ the polarizing matrix display are integrated into one matrix display panel.

15. (Currently amended) The polarized display according to claim 14, wherein ~~said~~ the integrated matrix display panel ~~comprises~~ includes two active glass substrates and a thin sheet of liquid crystals between ~~said~~ the two substrates; ~~said~~ the thin sheet ~~comprising~~ including ~~an IPO~~ a conductive layer and a color filter and ~~said~~ the two active substrates and ~~said~~ the color filter being aligned.

16. (Currently amended) The polarized display according to claim 15, wherein ~~said~~ the two active substrates are about 7 mm thick, and the ~~said~~ thin sheet is less than about 2 mm thick.

17. (Currently amended) ~~The display according to claim 1,~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein both said the intensity modulating matrix display and said the polarizing matrix display comprise LCD panels.

18. (Currently amended) ~~The display according to claim 1,~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein each pixel is subdivided into sub-pixels controlling a red, a green and a blue intensity, said the intensity modulating matrix display and said the polarizing matrix display ~~panel~~ respectively converting each corresponding sub-pixel into modular and angular signals given in a Cartesian system of angles as follows:

$$Modulo = \sqrt{(left^2 + right^2)} \quad (1)$$

$$Angular = Arc \tan \left(\frac{left}{right} \right) \quad (2)$$

where left is a value of a sub-pixel of a first image with ~~the~~ a first linear polarization angle corresponding to a same sub-pixel on a second image with ~~the~~ a second linear polarization angle, and right is a value of a sub-pixel of the second image corresponding to a same sub-pixel on the first image.

19. (Currently amended) The polarized display according to claim 18, wherein the modular and angular signals are given in an oblique system of angle $\omega = \alpha + \beta$ by transformed modular and angular signals as follows:

$$Modulo' = \sqrt{(L^2 \cos^2 \theta + 2LR \cos(\omega + \theta) + R^2 \cos^2(\omega + \theta))} \quad (9)$$

$$Angulo' = \arctan\left(\frac{L \cos \theta + R \cos(\omega + \theta)}{L \sin \theta + R \sin(\omega + \theta)}\right) \quad (10)$$

where $2\theta = (90^\circ - (\alpha + \beta))$, L is value of a sub-pixel of a first image with a first linear polarization angle β corresponding to a same sub-pixel on a second image with a second linear polarization angle α , and R is a value of a sub-pixel of the second image corresponding to a same sub-pixel on the first image.

20. (Currently amended) The polarized display according to claim 19, further comprising a first and a second linear polarized filters located side by side in a plane generally parallel to the front surface of the polarizing matrix display panel, in front thereof; ~~said the~~ first linear polarized filter being at an angle A at 90 degrees from the first linear polarization angle β and ~~said the~~ second linear polarized filter being at an angle B at 90 degrees from the second linear polarization angle α , wherein the left and right values are recovered from ~~said the~~ transformed modular and angular signals with ~~said the~~ first and second filters at A and B angles as follows:

$$\sqrt{(L^2 + 4LR \cos \theta \sin \theta + R^2)} \cdot \cos\left(\arctan\left(\frac{L \sin \theta + R \cos \theta}{L \cos \theta + R \sin \theta}\right) + \theta\right) = left \cdot \cos(2\theta) \quad (11)$$

$$\sqrt{(L^2 + 4LR \cos \theta \sin \theta + R^2)} \cdot \sin\left(\arctan\left(\frac{L \sin \theta + R \cos \theta}{L \cos \theta + R \sin \theta}\right) - \theta\right) = right \cdot \cos(2\theta) \quad (12)$$

where $2\theta = (90^\circ - (\alpha + \beta)) = A - \alpha = B - \beta$.

21. (Currently amended) The polarized display according to claim 20, wherein ~~said the~~ filters are mounted on viewer spectacles.

22. (Currently amended) The polarized display according to claim 21, wherein ~~said the~~ viewer spectacles comprise a parasite elliptical light eliminator.

23. (Currently amended) The polarized display according to claim 18, further comprising:

a memory ~~means for~~ arrangement storing transformed signals.

24. (Currently amended) The polarized display according to claim 19, wherein each frame is toggled between two Modulo-Angular discrete signals to yield ~~obtain~~ an average thereof, thereby reducing cross talk between the first and second images.

25. (Currently amended) The polarized display according to claim ~~[[2]]~~ 1, wherein the display is further connected to a controller arrangement means, ~~said the~~ controller arrangement means controlling an overdrive of at least one of ~~said the~~ first matrix display panel and ~~said the~~ second matrix display panel.

26. (Currently amended) The polarized display according to claim 18, wherein the display is further connected to a controller arrangement means, ~~said the~~ controller arrangement means controlling delay of the modular and angular signals, wherein i) when a sub-pixel of the first image goes from dark to bright while a ~~second~~ corresponding pixel of the second image is dark, the ~~Module~~ modular signal is delayed relative to the angular signal; and ii) when the ~~first~~ sub-pixel of the first image goes from bright to dark while the ~~second~~ corresponding pixel of the second image is dark, the ~~Angular~~ angular signal is delayed relative to the ~~Module~~ modular signal.

27. (Currently amended). ~~The display according to claim 1,~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein said ~~the~~ intensity modulating matrix display ~~comprises~~ includes a first LCD panel and said ~~the~~ polarizing matrix display ~~comprises~~ includes a second LCD panel, said ~~the~~ polarizing matrix display ~~panel comprising~~ including a filter sheet on the front surface thereof, yielding an enhanced 2D screen.

28. (Currently amended) ~~The display according to claim 1,~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein said ~~the~~ intensity modulating matrix display ~~comprises~~ includes a first LCD panel and said ~~the~~ polarizing matrix display ~~comprises~~ includes a second LCD panel, said ~~the~~ polarized display being looked at with a non 3D type of polarized glasses, yielding an enhanced 2D screen.

29. (Currently amended) ~~The display according to claim 1,~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein ~~said~~ the intensity modulating matrix display ~~comprises~~ includes a first LCD panel and ~~said~~ the polarizing matrix display ~~comprises~~ includes a second LCD panel, a private image being shown on the second LCD while a complete white image is displayed on the first LCD, whereby only a user wearing polarized glasses is able to see the private image, other people seeing only a white screen.

30. (Currently amended) ~~The display according to claim 1,~~ A polarized display, comprising:

an intensity modulating matrix display having a front surface; and

a polarizing matrix display in front of the intensity modulating matrix display, the polarizing matrix display having a front surface;

wherein the polarized display is one of:

a linear polarization display, each pixel of the polarizing matrix display being controllable and a rotation of a generated polarized light being varied over a range including 90 degrees and below; and

an elliptical polarization display, each pixel of the polarizing matrix display being controllable and a phase between a fast and a slow axes of a polarized light coming from

a corresponding pixel of the intensity modulating matrix display in a range including 180 degrees and below; and

wherein ~~said~~ the intensity modulating matrix display ~~comprises~~ includes a first LCD panel and ~~said~~ the polarizing matrix display ~~comprises~~ includes a second LCD panel, a private image being shown on the second LCD while a fake image is displayed on the first LCD, whereby only a user wearing polarized glasses is able to see the private image, other people seeing the fake image.

31. (Cancelled)